PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
GI-013 PCT		
International application No.	International filing date *(day/month/year)*	(Earliest) Priority Date *(day/month/year)*
PCT/EP2004/007527	08/07/2004	10/07/2003
Applicant		
MAX-PLANCK-GESELLSCHAFT ZUR F\RDERUNG DER ...		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 06 sheets.

[X] It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**
   a. With regard to the **language,** the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
      [ ] The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
   b. [ ] With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. [X] **Certain claims were found unsearchable** (See Box II).

3. [ ] **Unity of invention is lacking** (see Box III).

4. With regard to the **title,**
   [X] the text is approved as submitted by the applicant.
   [ ] the text has been established by this Authority to read as follows:

5. With regard to the **abstract,**
   [X] the text is approved as submitted by the applicant.
   [ ] the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings,**
   a. the figure of the **drawings** to be published with the abstract is Figure No. _____
      [ ] as suggested by the applicant.
      [ ] as selected by this Authority, because the applicant failed to suggest a figure.
      [ ] as selected by this Authority, because this figure better characterizes the invention.
   b. [X] none of the figures is to be published with the abstract.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 4-7

Present claims 4-6 relate to a compound defined by reference to a desirable characteristic or property, namely modulating the cellular localisation of RAB5 bound APPL1 or APPL2.
The claims cover all compounds having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and disclosure within the meaning of Article 5 PCT for very limited number of such compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible.
Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the compound by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, said claims have not been searched.

Present claim 7 relates to an assay comprising amongst others the following steps: a) isolating hemosomes b) restoring their functionality and c) modulating their function by substances that modulate amongst others the recruitment of Rab5 on hermesome. "Hermosome" is an internal designation which has no established meaning in the art, and consequently, its function is also unknown. The substances of step c) are only defined reference to a result to be achieved. Hence, a meaningful search of claim 7 is impossible.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2004/007527

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: 4-7
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/007527

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61P35/00 A61K45/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, Sequence Search

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X ✓	MIACZYNSKA MARTA ET AL: "APPL proteins link Rab5 to nuclear signal transduction via an endosomal compartment." CELL, vol. 116, no. 3, 6 February 2004 (2004-02-06), pages 445-456, XP002318580 ISSN: 0092-8674 * p. 445-447, 450-454, figure 2,4 *	1-3
Y ✓	WO 01/20022 A (MAX PLANCK GESELLSCHAFT ; RENZIS STEFANO DE (DE); ZERIAL MARINO (DE);) 22 March 2001 (2001-03-22) * abstract, p.2:10-6:14, 9:5-14:5, 15:20-21:22, 25:12-27:2, example 3, claims *	1-3

-/--

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
4 March 2005	22/03/2005

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Puonti-Kaerlas, J

2

Form PCT/ISA/210 (second sheet) (January 2004)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 1 088 898 A (MAX PLANCK GESELLSCHAFT) 4 April 2001 (2001-04-04) * abstract, p. 2:19-5:21, 8:32-9:43, example 1,2,3, 4, claims *	1-3
P,Y	HABERMANN BIANCA: "The BAR-domain family of proteins: a case of bending and binding?" EMBO REPORTS. MAR 2004, vol. 5, no. 3, March 2004 (2004-03), pages 250-255, XP002318581 ISSN: 1469-221X * p. 251-254, figure 2,3 *	1-3
P,Y	MIACZYNSKA MARTA ET AL: "Not just a sink: endosomes in control of signal transduction." CURRENT OPINION IN CELL BIOLOGY. AUG 2004, vol. 16, no. 4, June 2004 (2004-06), pages 400-406, XP002318582 ISSN: 0955-0674 * p. 404, figure 1 *	1-3
A	DATABASE EMBL 'Online! 27 June 2002 (2002-06-27), "Homo sapiens DIP13 beta mRNA, complete cds." XP002318584 retrieved from EBI accession no. EM_PRO:AY113704 Database accession no. AY113704 the whole document	
A	MITSUUCHI Y ET AL: "Identification of a chromosome 3p14.3-21.1 gene, APPL, encoding an adaptor molecule that interacts with the oncoprotein-serine/threonine kinase AKT2" ONCOGENE, BASINGSTOKE, HANTS, GB, vol. 18, 1999, pages 4891-4898, XP002965023 ISSN: 0950-9232	
A	DE RENZIS STEFANO ET AL 00022002: "Divalent Rab effectors regulate the sub-compartmental organization and sorting of early endosomes" NATURE CELL BIOLOGY, 'Online! vol. 4, no. 2, February 2002 (2002-02), pages 124-133, XP002318583 ISSN: 1465-7392 the whole document	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/EP2004/007527

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0120022 A	22-03-2001	EP 1088898 A1	04-04-2001
		CA 2384306 A1	22-03-2001
		WO 0120022 A1	22-03-2001
		EP 1214446 A1	19-06-2002
EP 1088898 A	04-04-2001	EP 1088898 A1	04-04-2001
		CA 2384306 A1	22-03-2001
		WO 0120022 A1	22-03-2001
		EP 1214446 A1	19-06-2002

This Page is Inserted by IFW Indexing and Scanning Operations and is not part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☑ FADED TEXT OR DRAWING
- ☑ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☑ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☑ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.
As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.